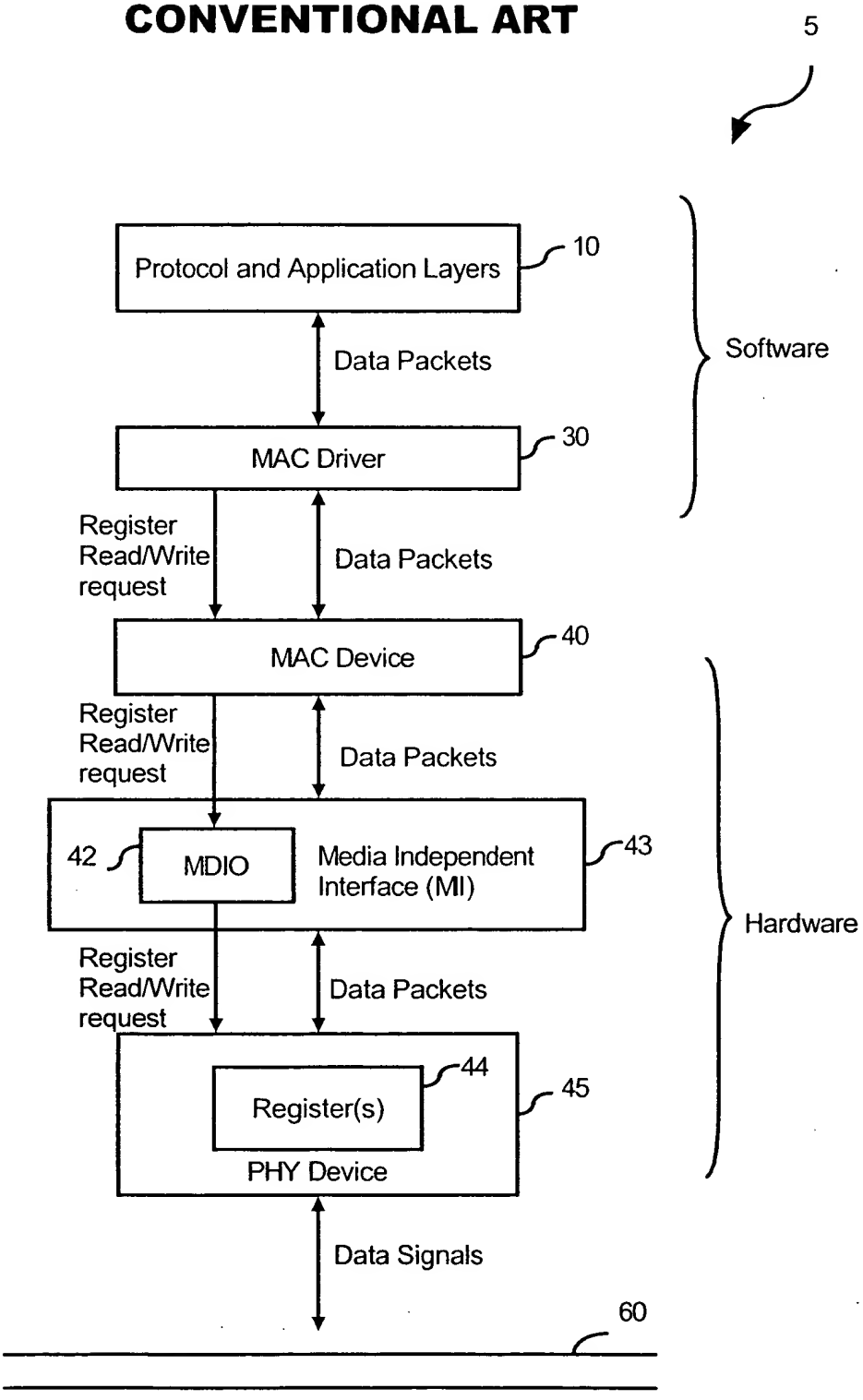
FIG. 1
CONVENTIONAL ART



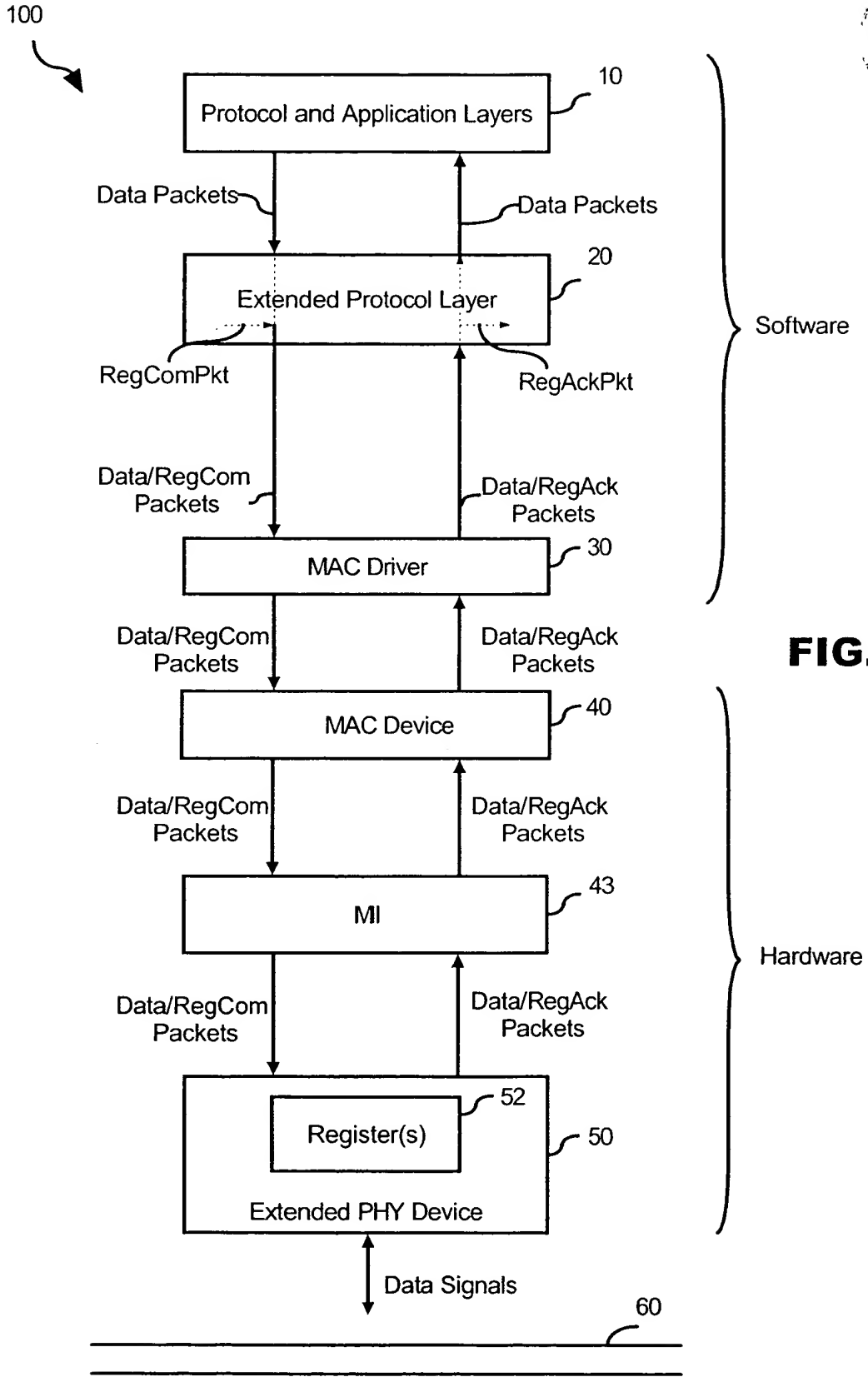
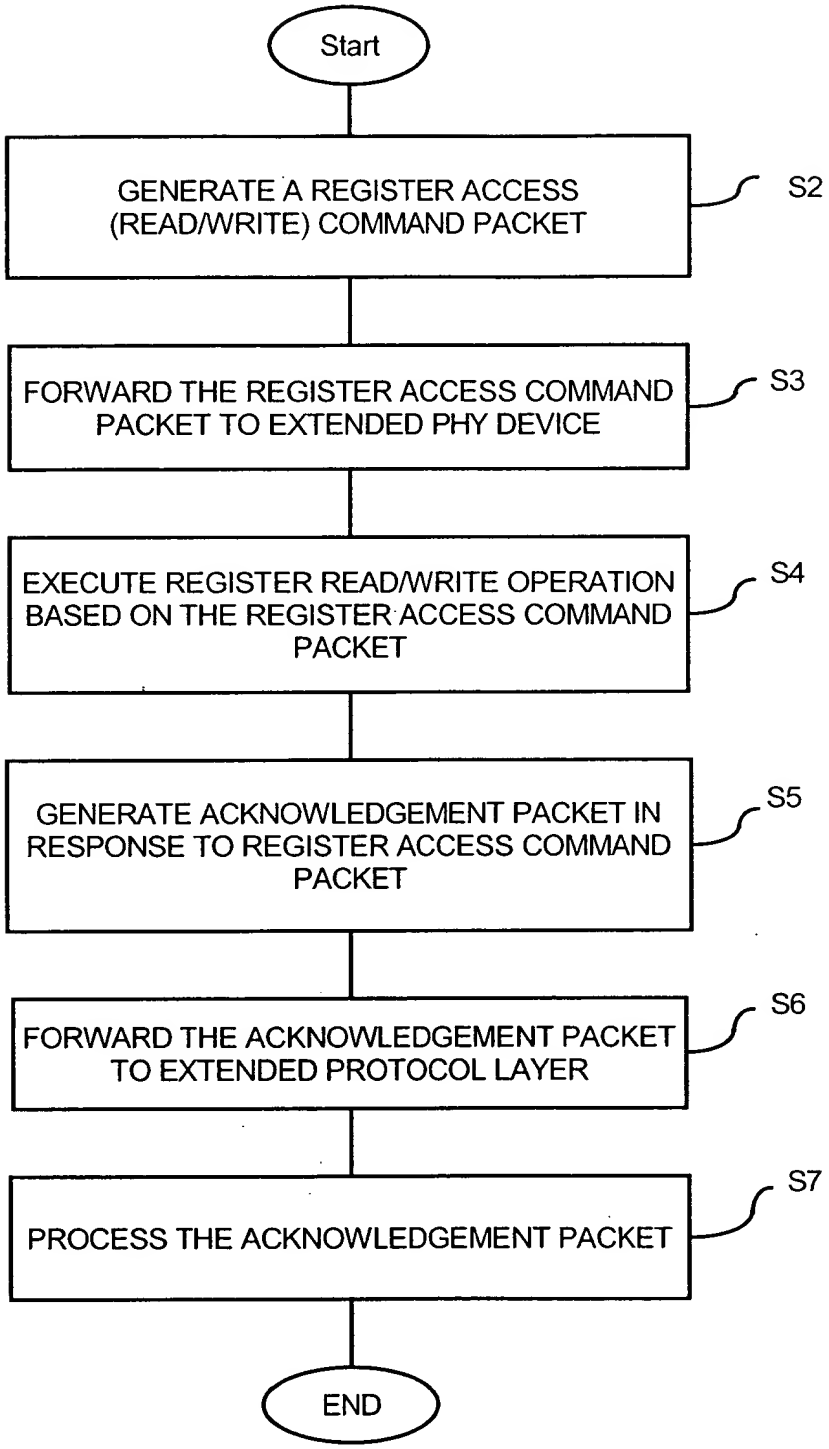

100
Protocol and Application Layers
10
Data Packets
Data Packets
Extended Protocol Layer
20
Software
RegComPkt
RegAckPkt
Data/RegCom Packets
Data/RegAck Packets
MAC Driver
30
Data/RegCom Packets
Data/RegAck Packets
MAC Device
40
Data/RegCom Packets
Data/RegAck Packets
MI
43
Hardware
Data/RegCom Packets
Data/RegAck Packets
Register(s)
52
50
Extended PHY Device
Data Signals
60

FIG. 2

FIG. 3


Start
GENERATE A REGISTER ACCESS (READ/WRITE) COMMAND PACKET
S2
FORWARD THE REGISTER ACCESS COMMAND PACKET TO EXTENDED PHY DEVICE
S3
EXECUTE REGISTER READ/WRITE OPERATION BASED ON THE REGISTER ACCESS COMMAND PACKET
S4
GENERATE ACKNOWLEDGEMENT PACKET IN RESPONSE TO REGISTER ACCESS COMMAND PACKET
S5
FORWARD THE ACKNOWLEDGEMENT PACKET TO EXTENDED PROTOCOL LAYER
S6
PROCESS THE ACKNOWLEDGEMENT PACKET
S7
END

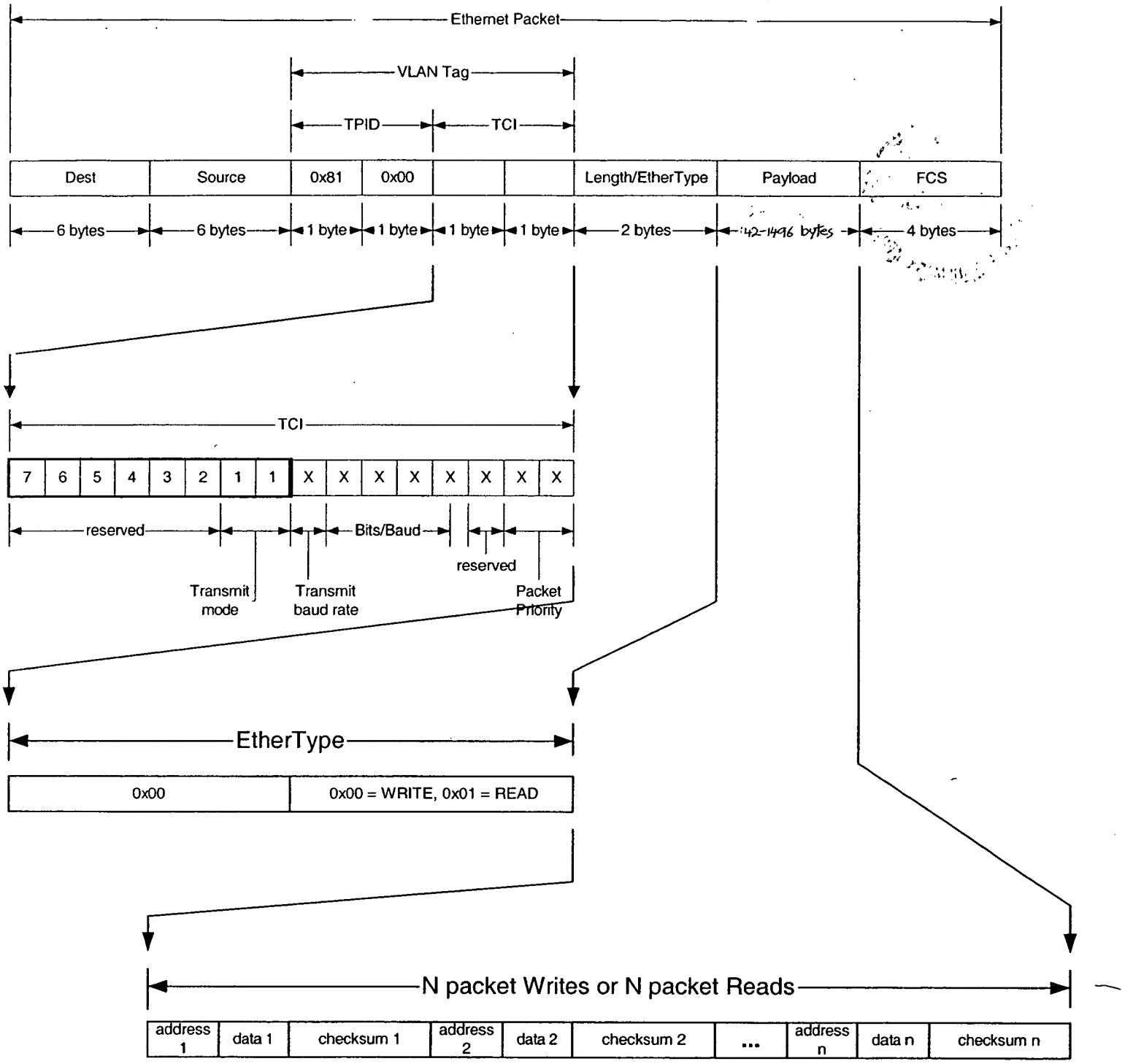

Ethernet Packet
VLAN Tag
TPID
TCI
Dest
Source
0x81
0x00
Length/EtherType
Payload
FCS
6 bytes
6 bytes
1 byte
1 byte
1 byte
1 byte
2 bytes
42-1496 bytes
4 bytes
TCI
7 6 5 4 3 2 1 1 X X X X X X X X
reserved
Bits/Baud
reserved
Transmit mode
Transmit baud rate
Packet Priority
EtherType
0x00
0x00 = WRITE, 0x01 = READ
N packet Writes or N packet Reads
address 1
data 1
checksum 1
address 2
data 2
checksum 2
...
address n
data n
checksum n

FIGURE 4